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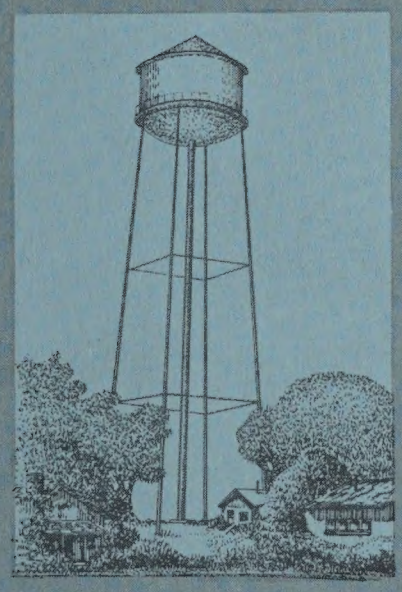
Illinois
Environmental
Protection Agency

Division of Public Water Supplies
2200 Churchill Road
Springfield, Illinois 62706

Groundwater Quality Protection Program

SIGEL
FACILITY NUMBER 1730350
WELL SITE SURVEY
REPORT

Division of Public Water Supplies



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IEPA/PWS/90-259

GROUNDWATER QUALITY PROTECTION PROGRAM:

SIGEL
FACILITY NUMBER 1730350
WELL SITE SURVEY
REPORT

Prepared by:

Division of Public Water Supplies

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INTRODUCTION

This report has been prepared by the Agency pursuant to Section 17.1 of the Illinois Environmental Protection Act. The report summarizes information about your facility and samples collected and analyzed from your well(s). The well site survey provides an inventory of the area around the well(s) to help increase your awareness of potential hazards to groundwater utilized by your facility. This information and technical data will assist you in developing and implementing local groundwater protection measures authorized by the Act.

FACILITY DESCRIPTION AND GEOLOGIC PROFILE OF WELL SITES

The Town of Sigel obtains its water from four drift wells. Wells #1, #2 and #4 are the main supply wells with #3 as backup. The wells provide an average of 23,000 gallons perday to 157 services. See Table I for a description of each well. The surficial geologic susceptibility rating for all four wells is B2. The aquifer is overlain by alternating layers of low permeability till and sand and gravel. Permeability is a measure of the ability of a soil or sediment to transmit fluids. A detailed description and geologic profile is found in the Facility Wells Report (Appendix C).

Table I

	Minimum Setback (ft.)	Maximum Setback (ft.)	Status	Capacity (gpm) (MGD)	Specific Capacity (gpm/ft.)	Treatment	Aquifer	Well Depth (ft.)	Well Logs Available
Well #1 (47776)	400	No	A	15 0.022		Aer., Filt., Chl.,Fl., Sftng	Sand and gravel	52	Yes
Well #2 (47777)	400	No	A	20 0.032	1.0	same	same	64	yes
Well #3 (00314)	400	No	SB		2.4	same	same	52	Yes
Well #4 (00315)	400	No	A	14 0.020		same	same	58	

A - Active
SB - Standby

GROUNDWATER SAMPLING AND MONITORING HISTORY

Sigel Wells #1 and #2 were sampled on August 19, 1987 as part of a Statewide Groundwater Monitoring Program. The samples were analyzed for inorganic chemicals (IOC) and volatile organic/aromatic compounds (VOG/VOA).

Initial VOC/VOA analyses from Well #2 showed 2 parts per billion (ppb) of 1,1,1-trichloroethane (1,1,1-TCA). Subsequent quarterly sampling failed to confirm the presence of 1,1,1-TCA. IOC analyses indicate that parameters are consistant with other sand and gravel aquifers in Illinois. Information on 1,1,1-TCA is found in Appendix F, complete sampling results are in Appendix D.

WELL SITE SURVEY METHODS AND PROCEDURES

The detailed well site survey consists of an aerial photographic map and inventory that relate information about potential contamination sources, routes, and possible problem sites to your water supply well(s). The location of potential sources, routes, possible problem sites, minimum setback zones and 1,000 foot survey area are all displayed on the aerial photographic map (Appendix B).

The first page of each survey consists of a summary description and geologic profile for each well. The second and following pages of the survey inventory units within and bordering a 1,000 foot radius of the wellhead. A unit is defined as "any device, mechanism, equipment, or area (exclusive of land utilized only for agricultural production)" (See Groundwater Primer pg. 19). The Agency 5-digit well number is associated with a map code or unit, and then classified. The classification codes relate to definitions of potential contamination sources and routes as defined in the Illinois Groundwater Protection Act (Primer pages 18-19). Each unit or map code is then described and associated with an owner/address. In addition, the distance and direction from the wellhead is indicated is indicated.

Survey Results and Findings

The Sigel well site survey was conducted on August 15, 1990 by Wade Boring from the Agency's Springfield Office. The following describes the results and findings for the Sigel public water wells.

Sigel Well #1 (IEPA #47776)

The survey area is mostly rural. The area is a mixture of row crops, residential and commercial. There are eleven possible problem sites within 1,500 feet of Well #1. They are Sigel Equipment (map code 2) 1,200 ft. NW, Jansen Shell (map code 3) 1,060 ft. NNW, Sigel Grain Co. (mpae code 4) 1,220 ft. NW, Hanflad Painting (map code 5) 1,100 ft NW, Hanflad's below ground fuel tank (map code 6) 700 ft. NNW, Custom Cabinets (map code 7) 650 ft. NNW, a former garage (map code 8) 500 ft. NW, Triple S Garage (map code 9) 510 ft. NW, below ground fuel storage (map code 10) 420 ft. W, Hewing's (map code 11) 820 ft. SW and an above ground fuel tank (map code 12) 950 ft. SSW.

Sigel Well #2 (IEPA #47777)
The survey area is mostly rural. The area is a mixture of row crops, residential and commercial. There are five possible problem sites within 1,500 feet of Well #2. They are Hanflad's below ground fuel tank (map code 6) 1,300 ft. NW, Custom Cabinets (map code 7) 1,250 ft. NW, a former garage (map code 8) 1,300 ft. Nw, Tripel S Garage (map code 9) 1,450 ft. WNW and below ground fuel Storage (map code 10), 1,400 ft. W.

Sigel Well #3 (IEPA #00314)
The survey area is mostly rural. The area is a mexture of row crops, residential and commercial. There are ten possible problem sites within 1,500 feet of Well #3. They are the sewage treatment plant (map code 1) 550 ft. WNW, Sigel Equipment (map code 2) 1,200 ft. NE, Jansen Shell (map code 3) 1,350 ft. NE, Sigel Grain Co (map code 4) 650 ft. NE, Hanflad Painting (map code 5) 450 ft. SE, Hanflad's below ground fuel tank (map code 6) 1,400 ft. ENE, Custom Cabinets (map code 7) 1,400 ft. ENE, a former garage (map code 8) 1,250 ft. ESE, Triple S Garage (map code 9) 1,140 ft. SE and below ground fuel storage (map code 10) 1,200 ft. SE.

Sigel Well #4 (IEPA #00315)
The survey area is mostly rural. The area is a mixture of row crops, residential and commercial. There are twelve possible problem sites within 1,500 feet of Well #4. They are the sewage treatment plant (map code 1) 1,200 ft. WNW, Sigel Equipment (map code 2) 650 ft. NNE, Jansen Shell (map code 3) 670 ft. NE, Sigel Grain Co. (map code 4) 270 ft. NW, Hanflad Painting (map code 5) 250 ft. SW, Hanflad's below ground fuel tank (map code 6) 640 ft. NE, Custom Cabinets (map code 7) 650 ft. ENE, a former garage (map code 8) 500 ft. SE, Triple S Garage (map code 9) 450 ft. SE, below ground fuel storage (map code 10) 600 ft. SE, Hewings (map code 11) 1,300 ft. SSE and an above ground fuel tank (map code 12) 1,500 ft. SSE.

SUMMARY AND RECOMMENDATIONS

The well site survey conducted indicates that there are potential sources/sites that could pose a hazard to groundwater utilized by the Sigel public water wells.

- Six sites with below ground fuel storage; Jansen Shell, Sigel Grain Co., Hanflad Painting, Triple S Garage, a repair shop and a former garage.
- One site with fertilizer sales; Sigel Grain Co.
- One auto repair shop; Hewings.
- The sewage treatment plant.

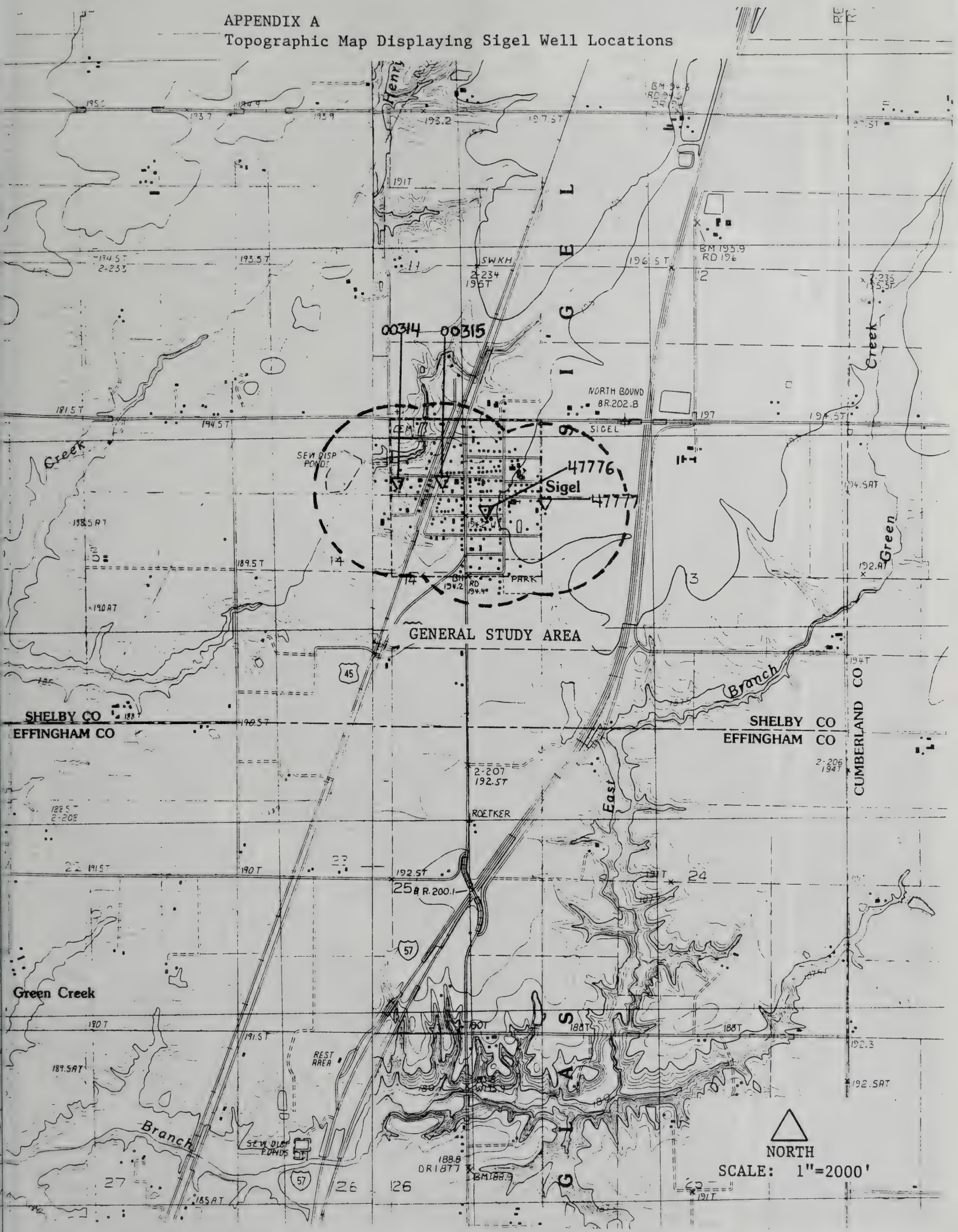
The Illinois Environmental Protection Act provides minimum protection zones for your wells. These minimum protection zones are regulated by the IEPA. The Act also authorizes county and municipal officials the opportunity to provide maximum protection zones up to 1,000 feet. The responsibility for the controls would then be assumed by local officials through adoption of a maximum setback zone ordinance.

Maximum setback zones prohibit the siting of new potential primary sources of groundwater contamination up to a distance of 1,000 feet from the wellhead. In addition, a maximum setback zone could expand the regulatory coverage of certain new and existing activities. These controls could be implemented upon the adoption of proposed regulations by the Illinois Pollution Control Board. The Agency strongly urges Sigel to consider establishing maximum setback zones for its wells. The Agency has prepared a "Maximum Setback Zone Workbook" which provides detailed case studies of how to establish a maximum setback zone. Technical assistance is available from the Agency and the Illinois State Water Survey.

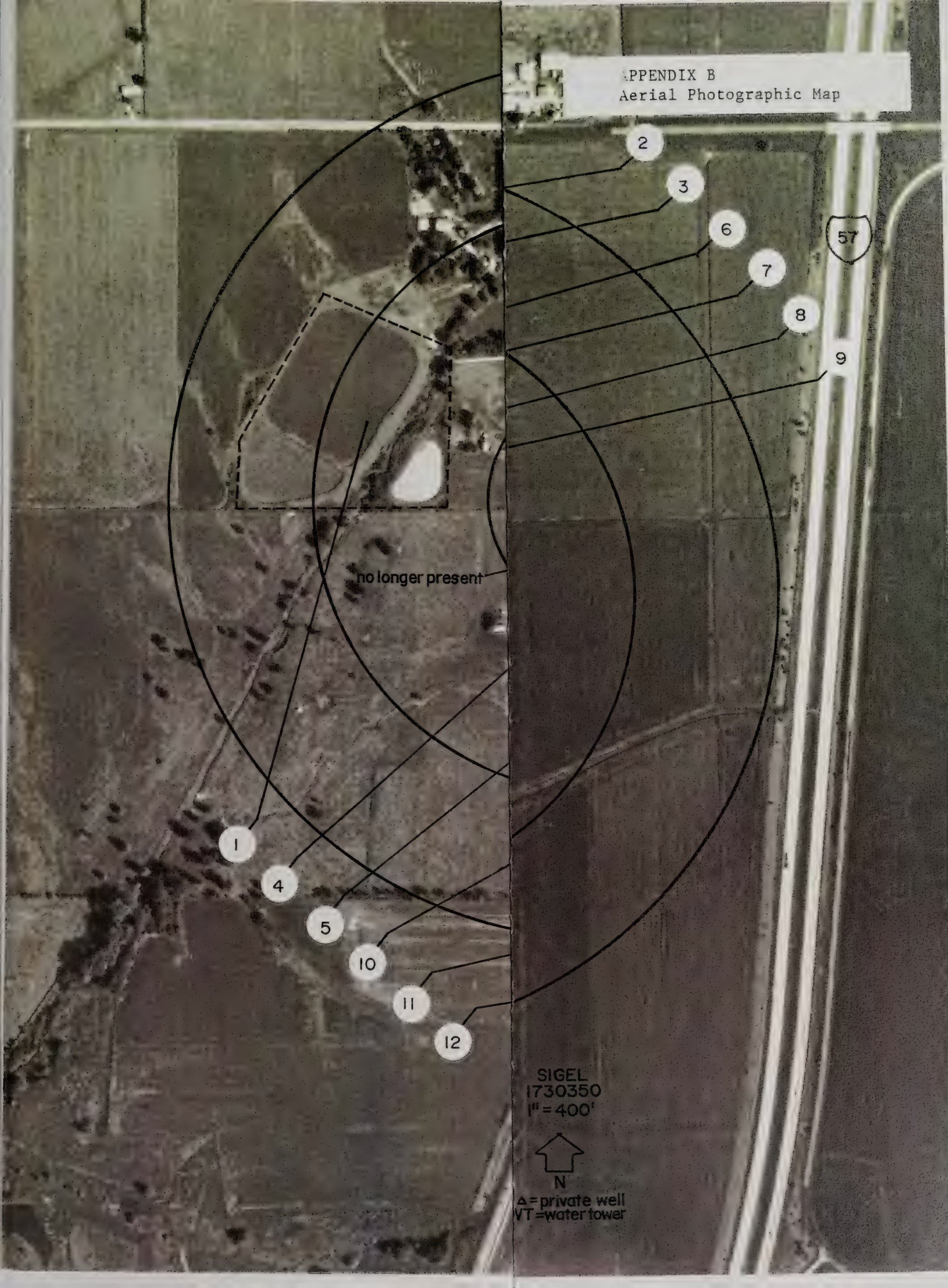
TECHNICAL APPENDICES

APPENDIX A

Topographic Map Displaying Sigel Well Locations



APPENDIX B
Aerial Photographic Map



APPENDIX B
Aerial Photographic Map

00314

00315

WASHINGTON ST

FRONT ST

MAIN ST

no longer present

WT

200'

400'

1000'

1500'

PARK

47776

47777

45

1

2

3

4

5

6

7

8

9

10

11

12

57

SIGEL
1730350
1" = 400'

N

Δ = private well
WT = water tower

APPENDIX: B1 WELL SITE SURVEY SUMMARY DESCRIPTION AND GEOLOGIC PROFILE Sigel Well #1 (IEPA 47776)

SURVEYOR: W. Boring
SURVEY DATE: August 15, 1990

ADDRESS:
Village Hall
Box 67
Sigel, Illinois 62462

AGENCY WELL NO: 47776
WELL NAME & DESC.: Well 1
TREATMENT APPLICATION POINT: 01
FACILITY NO. & NAME: 1730350 - Sigel
FAC. PHONE NUMBER:
LOCATION:
TWP, RNG, SECTION, 10 ACRE PLOT:
9N, 6E, 14, 2F
DISTANCE FROM CORNER: 3495N, 985W
QUAD SHEET CODE & NAME: 206B - Teutopolis
MIN. SETBACK: 400 ft.
MAX. SETBACK:
SURFICIAL GEOLOGIC SUSCEPTIBILITY RATING: B2 - sand and gravel overlain by low permeability till
AGE OF WELL (DATE WELL CONSTRUCTION): 1954
WELL DEPTH: 65 ft.
AQUIFER CODE: 0101 - sand and gravel aquifer
MULTIPLE AQUIFER (Y, N): No
SUMMARY DESCRIPTION OF 1,000' RADIUS AREA: The survey area is mostly rural. The area is a mixture of row crops, residential and commercial
INTERVIEW(S) NAME-ADDRESS-AFFILIATION-TELEPHONE NO.:

WB:rmi/3546n/1-6

APPENDIX: B1 INVENTORY AND SYNOPSIS OF UNITS Sigel Well #1 (IEPA #47776)

Classification (CLASSF*) KEY

MIN. ZONE	OUTSIDE MIN. ZONE
PP = POTENTIAL PRIMARY	OP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY	OS = POTENTIAL SECONDARY
RI = POTENTIAL ROUTE	OR = POTENTIAL ROUTE
CC = CERTIFIED	CC = CERTIFIED
XI = UNKNOWN	OX = UNKNOWN
CU = CLEANUP	CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 47776-01-
NAME & ADDRESS OF UNIT OWNER: Village of Sigel, Village Hall, Box 67, Sigel, IL 62462
DESCRIPTION AND COMMENTS: sewage treatment plant, NPDES # IL0031097
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 2100 ft. NW

WELL NO. - MAP CODE - CLASSF*: 47776-02-
NAME & ADDRESS OF UNIT OWNER: Sigel Equipment, Main St., Sigel, IL 62462
DESCRIPTION AND COMMENTS: farm equipment sales
PRE OR POST (Y,N): y
DISTANCE AND DIRECTION: 1,200 ft. NW

WELL NO. - MAP CODE - CLASSF*: 47776-03-
NAME & ADDRESS OF UNIT OWNER: Jansen Shell, Main St., Sigel, IL 62462 217/844-2023
DESCRIPTION AND COMMENTS: service station w/below ground fuel storage assumed greater than 500 gallons, ISFM #4-008037
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1060 ft. NNW

WELL NO. - MAP CODE - CLASSF*: 47776-04-
NAME & ADDRESS OF UNIT OWNER: Sigel Grain Co., Sigel, IL 62462
DESCRIPTION AND COMMENTS: grain elevator w/below ground fuel storage and fertilizer sales
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1220 ft. NW

WELL NO. - MAP CODE - CLASSF*: 47776-05-
NAME & ADDRESS OF UNIT OWNER: Hanflad Painting Contracters, Sigel, IL 62462
DESCRIPTION AND COMMENTS: painting and sandblasting
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1100 ft. NW

WELL NO. - MAP CODE - CLASSF*: 47776-06-
NAME & ADDRESS OF UNIT OWNER: Hanflad Painting Contracters, Sigel, IL 62462
DESCRIPTION AND COMMENTS: garage w/below ground fuel storage, ISFM #4-003519
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 700 ft. NNW

WB:rmi/3546n/7

APPENDIX: B1 INVENTORY AND SYNOPSIS OF UNITS Sigel Well #1 (IEPA #47776)

Classification (CLASSF*) KEY

MIN. ZONE	OUTSIDE MIN. ZONE
PP = POTENTIAL PRIMARY	OP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY	OS = POTENTIAL SECONDARY
RI = POTENTIAL ROUTE	OR = POTENTIAL ROUTE
CC = CERTIFIED	CC = CERTIFIED
XI = UNKNOWN	OX = UNKNOWN
CU = CLEANUP	CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 47776-07-
NAME & ADDRESS OF UNIT OWNER: Custom Cabinets, Sigel, IL 62462
DESCRIPTION AND COMMENTS: cabinet manufacturer
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 650 ft. NNW

WELL NO. - MAP CODE - CLASSF*: 47776-08-OX
NAME & ADDRESS OF UNIT OWNER: unknown, Sigel, IL 62462
DESCRIPTION AND COMMENTS: former garage w/below ground fuel storage
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 500 ft NW

WELL NO. - MAP CODE - CLASSF*: 47776-09-OS
NAME & ADDRESS OF UNIT OWNER: Triple S Garage, Box 67, Sigel,IL 62462
DESCRIPTION AND COMMENTS: service station w/below ground fuel storage assumed greater than 500 gallons, ISFM #4-002153
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 510 ft. NW

WELL NO. - MAP CODE - CLASSF*: 47776-10-OX
NAME & ADDRESS OF UNIT OWNER: unknown, Main St., Sigel, IL 62462
DESCRIPTION AND COMMENTS: repair shop w/below ground fuel storage
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 420 ft. W

WELL NO. - MAP CODE - CLASSF*: 47776-11-
NAME & ADDRESS OF UNIT OWNER: Hewings Technician Services, Main St., Sigel, IL 62462
DESCRIPTION AND COMMENTS: auto and truck repair
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 820 ft. SW

WELL NO. - MAP CODE - CLASSF*: 47776-12-
NAME & ADDRESS OF UNIT OWNER: unknown, Sigel, IL 62462
DESCRIPTION AND COMMENTS: unmarked building with small above ground fuel tank
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 950 ft. SSW

WB:rmi/3546n/8

APPENDIX: B2 WELL SITE SURVEY SUMMARY DESCRIPTION AND GEOLOGIC PROFILE Sigel Well #3 (IEPA #47777)

SURVEYOR: W. Boring
SURVEY DATE: 8/15/90
ADDRESS:
Village Hall
Box 67
Sigel, IL 62462

AGENCY WELL NO: 47777
WELL NAME & DESC.: Well 2
TREATMENT APPLICATION POINT: 01
FACILITY NO. & NAME: 1730350-Sigel
FAC. PHONE NUMBER:
LOCATION:
TWP, RNG, SECTION, 10 ACRE PLOT:
9N, 6E, 13, 8F
DISTANCE FROM CORNER: 3830N, 5180W
QUAD SHEET CODE & NAME: 206B-Teutopolis
MIN. SETBACK: 400 ft.
MAX. SETBACK:
SURFICIAL GEOLOGIC SUSCEPTIBILITY RATING: B2-sand and gravel overlain by low permeability till
AGE OF WELL (DATE WELL CONSTRUCTION): 1972
WELL DEPTH: 64 ft.
AQUIFER CODE: 0101-sand and gravel aquifer
MULTIPLE AQUIFER (Y, N): No
SUMMARY DESCRIPTION OF 1,000' RADIUS AREA: The survey area is mostly rural. The area is a mixture of row crops, residential and commercial
INTERVIEW(S) NAME-ADDRESS-AFFILIATION-TELEPHONE NO.:

WB:rmi/3546n/9

APPENDIX: B2 INVENTORY AND SYNOPSIS OF UNITS Sigel Well #2 (IEPA #47777)

Classification (CLASSF*) KEY

MIN. ZONE	OUTSIDE MIN. ZONE
PP = POTENTIAL PRIMARY	OP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY	OS = POTENTIAL SECONDARY
RI = POTENTIAL ROUTE	OR = POTENTIAL ROUTE
CC = CERTIFIED	CC = CERTIFIED
XI = UNKNOWN	OX = UNKNOWN
CU = CLEANUP	CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 47777-01-
NAME & ADDRESS OF UNIT OWNER: Village of Sigel, Village Hall, Box 67, Sigel, IL 62462
DESCRIPTION AND COMMENTS: sewage treatment plant, NPDES # IL0031097
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 3050 ft. WNW

WELL NO. - MAP CODE - CLASSF*: 47777-02-
NAME & ADDRESS OF UNIT OWNER: Sigel Equipment, Main St., Sigel, IL 62462
DESCRIPTION AND COMMENTS: farm equipment sales
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1700 ft. NW

WELL NO. - MAP CODE - CLASSF*: 47777-03-
NAME & ADDRESS OF UNIT OWNER: Jansen Shell, Main St., Sigel, IL 62462 217/844-2023
DESCRIPTION AND COMMENTS: service station w/below ground fuel storage assumed greater than 500 gallons, ISFM #4-008037
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1550 ft. NW

WELL NO. - MAP CODE - CLASSF*: 47777-04-
NAME & ADDRESS OF UNIT OWNER: Sigel Grain Co., Sigel, IL 62462
DESCRIPTION AND COMMENTS: grain elevator w/below ground fuel storage and fertilizer sales
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 2,000 ft. NW

WELL NO. - MAP CODE - CLASSF*: 47777-05-
NAME & ADDRESS OF UNIT OWNER: Hanflad Painting Contracters, Sigel, IL 62462
DESCRIPTION AND COMMENTS: painting and sandblasting
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 2,000 ft. W

WELL NO. - MAP CODE - CLASSF*: 47777-06-
NAME & ADDRESS OF UNIT OWNER: Hanflad Painting Contracters, Sigel, IL 62462
DESCRIPTION AND COMMENTS: garage w/below ground fuel storage, ISFM #4-003519
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1,300 ft. NW

WB:rmi/3546n/10

APPENDIX: B2 INVENTORY AND SYNOPSIS OF UNITS Sigel Well #2 (IEPA #47777)

Classification (CLASSF*) KEY

MIN. ZONE	OUTSIDE MIN. ZONE
PP = POTENTIAL PRIMARY	OP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY	OS = POTENTIAL SECONDARY
RI = POTENTIAL ROUTE	OR = POTENTIAL ROUTE
CC = CERTIFIED	CC = CERTIFIED
XI = UNKNOWN	OX = UNKNOWN
CU = CLEANUP	CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 47777-07-
NAME & ADDRESS OF UNIT OWNER: Custom Cabinets, Sigel, IL 62462
DESCRIPTION AND COMMENTS: cabinet manufacturer
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1250 ft. NW

WELL NO. - MAP CODE - CLASSF*: 47777-08-
NAME & ADDRESS OF UNIT OWNER: unknown, Sigel, IL 62462
DESCRIPTION AND COMMENTS: former garage w/below ground fuel storage
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1300 ft. NW

WELL NO. - MAP CODE - CLASSF*: 47777-09-
NAME & ADDRESS OF UNIT OWNER: Triple S Garage, Box 67, Sigel, IL 62462
DESCRIPTION AND COMMENTS: service station w/below ground fuel storage assumed greater than 500 gallons, ISFM #4-002153
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1450 ft. WNW

WELL NO. - MAP CODE - CLASSF*: 47777-10-
NAME & ADDRESS OF UNIT OWNER: unknown, Main St., Sigel, IL 62462
DESCRIPTION AND COMMENTS: repair shop w/below ground fuel storage
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1400 ft. W

WELL NO. - MAP CODE - CLASSF*: 47777-11-
NAME & ADDRESS OF UNIT OWNER: Hewings Technician Services, Main St., Sigel, IL 62462
DESCRIPTION AND COMMENTS: auto and truck repair
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1650 ft. SW

WELL NO. - MAP CODE - CLASSF*: 47777-12-
NAME & ADDRESS OF UNIT OWNER: unknown, Sigel, IL 62462
DESCRIPTION AND COMMENTS: unmarked building with small above ground fuel tank
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1670 ft. SW

WB:rmi/3546n/11

APPENDIX: B3 WELL SITE SURVEY SUMMARY DESCRIPTION AND GEOLOGIC PROFILE Sigel Well #3 (IEPA #00314)

SURVEYOR: W. Boring
SURVEY DATE: 8/15/90

ADDRESS:
Village Hall
Box 67
Sigel, IL 62462

AGENCY WELL NO: 00314
WELL NAME & DESC.: Well 3
TREATMENT APPLICATION POINT: 01
FACILITY NO. & NAME: 1730350-Sigel
FAC. PHONE NUMBER:
LOCATION:
TWP, RNG, SECTION, 10 ACRE PLOT:
9N, 6E, 14, 4G
DISTANCE FROM CORNER: 1250S, 2500W
QUAD SHEET CODE & NAME: 206B-Teutopolis
MIN. SETBACK: 400 ft.
MAX. SETBACK:
SURFICIAL GEOLOGIC SUSCEPTIBILITY RATING: B2-sand and gravel overlain by low permeability till
AGE OF WELL (DATE WELL CONSTRUCTION): 1987
WELL DEPTH: 52 ft.
AQUIFER CODE: 0101-sand and gravel aquifer
MULTIPLE AQUIFER (Y, N): No
SUMMARY DESCRIPTION OF 1,000' RADIUS AREA: The survey area is mostly rural. The area is a mixture of row crops, residential and commercial.
INTERVIEW(S) NAME-ADDRESS-AFFILIATION-TELEPHONE NO.:

WB:rmi/3546n/12

APPENDIX: B3 INVENTORY AND SYNOPSIS OF UNITS Sigel Well #3 (IEPA #00314)

Classification (CLASSF*) KEY

MIN. ZONE	OUTSIDE MIN. ZONE
PP = POTENTIAL PRIMARY	OP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY	OS = POTENTIAL SECONDARY
RI = POTENTIAL ROUTE	OR = POTENTIAL ROUTE
CC = CERTIFIED	CC = CERTIFIED
XI = UNKNOWN	OX = UNKNOWN
CU = CLEANUP	CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 00314-01-OS
NAME & ADDRESS OF UNIT OWNER: Village of Sigel, Village Hall, Box 67, Sigel, IL 62462
DESCRIPTION AND COMMENTS: sewage treatment plant, NPDES #IL0031097
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 550 ft. WNW

WELL NO. - MAP CODE - CLASSF*: 00314-02-
NAME & ADDRESS OF UNIT OWNER: Sigel Equipment, Main St., Sigel, IL 62462
DESCRIPTION AND COMMENTS: farm equipment sales
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1,200 ft. NE

WELL NO. - MAP CODE - CLASSF*: 00314-03-
NAME & ADDRESS OF UNIT OWNER: Jansen Shell, Main St., Sigel, IL 62462 217/844-2023
DESCRIPTION AND COMMENTS: service station w/below ground fuel storage assumed greater than 500 gallons, ISFM #4-008037
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1,350 ft. NE

WELL NO. - MAP CODE - CLASSF*: 00314-04-OX
NAME & ADDRESS OF UNIT OWNER: Sigel Grain Co., Sigel, IL 62462
DESCRIPTION AND COMMENTS: grain elevator w/below ground fuel storage and fertilizer sales
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 650 ft. NE

WELL NO. - MAP CODE - CLASSF*: 00314-05-
NAME & ADDRESS OF UNIT OWNER: Hanflad Painting Contracters, Sigel, IL 62462
DESCRIPTION AND COMMENTS: painting and sandblasting
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 450 ft. SE

WELL NO. - MAP CODE - CLASSF*: 00314-06-
NAME & ADDRESS OF UNIT OWNER: Handflad Painting Contracters, Sigel, IL 62462
DESCRIPTION AND COMMENTS: garage w/below ground fuel storage, ISFM #4-003519
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1400 ft. ENE

WB:rmi/3546n/13

APPENDIX: B3 INVENTORY AND SYNOPSIS OF UNITS Sigel Well #3 (IEPA 300314)

Classification (CLASSF*) KEY

MIN. ZONE	OUTSIDE MIN. ZONE
PP = POTENTIAL PRIMARY	OP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY	OS = POTENTIAL SECONDARY
RI = POTENTIAL ROUTE	OR = POTENTIAL ROUTE
CC = CERTIFIED	CC = CERTIFIED
XI = UNKNOWN	OX = UNKNOWN
CU = CLEANUP	CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 00314-07-
NAME & ADDRESS OF UNIT OWNER: Custom Cabinets, Sigel, IL 62462
DESCRIPTION AND COMMENTS: cabinet manufacturer
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1400 ft. ENE

WELL NO. - MAP CODE - CLASSF*: 00314-08-
NAME & ADDRESS OF UNIT OWNER: unknown, Sigel, IL 62462
DESCRIPTION AND COMMENTS: former garage w/below ground fuel storage
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1250 ft. ESE

WELL NO. - MAP CODE - CLASSF*: 00314-09-
NAME & ADDRESS OF UNIT OWNER: Triple S Garage, Box 67, Sigel, IL 62462
DESCRIPTION AND COMMENTS: service station w/below ground fuel storage assumed greater than 500 gallons, ISFM #4-002153
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1140 ft. SE

WELL NO. - MAP CODE - CLASSF*: 00314-10-
NAME & ADDRESS OF UNIT OWNER: unknown, Main St., Sigel, IL 62462
DESCRIPTION AND COMMENTS: repair shop w/below ground fuel storage
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1200 ft. SE

WELL NO. - MAP CODE - CLASSF*: 00314-11-
NAME & ADDRESS OF UNIT OWNER: Hewings Technician Services, Main St., Sigel, IL 62462
DESCRIPTION AND COMMENTS: auto and truck repair
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1650 ft. SE

WELL NO. - MAP CODE - CLASSF*: 00314-12-
NAME & ADDRESS OF UNIT OWNER: unknown, Sigel, IL 62462
DESCRIPTION AND COMMENTS: unmarked building with small above ground fuel tank
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1900 ft. SE

WB:rmi/3546n/14

APPENDIX: B4 WELL SITE SURVEY SUMMARY DESCRIPTION AND GEOLOGIC PROFILE Sigel Well #4 (IEPA #00315)

SURVEYOR: W. Boring
SURVEY DATE: 8/15/90

ADDRESS:
Village Hall
Box 67
Sigel, IL 62462

AGENCY WELL NO: 00315
WELL NAME & DESC.: Well 4
TREATMENT APPLICATION POINT: 01
FACILITY NO. & NAME: 1730350-Sigel
FAC. PHONE NUMBER:
LOCATION:
TWP, RNG, SECTION, 10 ACRE PLOT:
9N, 6E, 14, 3G
DISTANCE FROM CORNER: 1250S, 1720W
QUAD SHEET CODE & NAME: 206B-Teutopolis
MIN. SETBACK: 400 ft.
MAX. SETBACK:
SURFICIAL GEOLOGIC SUSCEPTIBILITY RATING: B2-sand and gravel overlain by low permeability till
AGE OF WELL (DATE WELL CONSTRUCTION): 1987
WELL DEPTH: 58 ft.
AQUIFER CODE: 0101-sand and gravel aquifer
MULTIPLE AQUIFER (Y, N): No
SUMMARY DESCRIPTION OF 1,000' RADIUS AREA: The survey area is mostly rural. The area is a mixture of row crops, residential and commercial.
INTERVIEW(S) NAME-ADDRESS-AFFILIATION-TELEPHONE NO.:

WB:rmi/3546n/15

APPENDIX: B4 INVENTORY AND SYNOPSIS OF UNITS Sigel Well #4 (IEPA #00315)

Classification (CLASSF*) KEY

MIN. ZONE	OUTSIDE MIN. ZONE
PP = POTENTIAL PRIMARY	OP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY	OS = POTENTIAL SECONDARY
RI = POTENTIAL ROUTE	OR = POTENTIAL ROUTE
CC = CERTIFIED	CC = CERTIFIED
XI = UNKNOWN	OX = UNKNOWN
CU = CLEANUP	CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 00315-01-
NAME & ADDRESS OF UNIT OWNER: Village of Sigel, Village Hall, Box 67, Sigel, IL 62462
DESCRIPTION AND COMMENTS: sewage treatment plant, NPDES #IL0031097
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1300 ft. WNW

WELL NO. - MAP CODE - CLASSF*: 00315-02-
NAME & ADDRESS OF UNIT OWNER: Sigel Equipment, Main St., Sigel, IL 62462
DESCRIPTION AND COMMENTS: farm equipment sales
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 650 ft. NNE

WELL NO. - MAP CODE - CLASSF*: 00315-03-OS
NAME & ADDRESS OF UNIT OWNER: Jansen Shell, Main St., Sigel, IL 62462 217/844-2023
DESCRIPTION AND COMMENTS: service station w/below ground fuel storage assumed greater than 500 gallons, ISFM #4-008037
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 670 ft. NE

WELL NO. - MAP CODE - CLASSF*: 00315-04-XI
NAME & ADDRESS OF UNIT OWNER: Sigel Grain Co., Sigel, IL 62462
DESCRIPTION AND COMMENTS: grain elevator w/below ground fuel storage and fertilizer sales
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 270 ft. NW

WELL NO. - MAP CODE - CLASSF*: 00315-05-XI
NAME & ADDRESS OF UNIT OWNER: Hanflad Painting Contracters, Sigel, IL 62462
DESCRIPTION AND COMMENTS: painting and sandblasting
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 250 ft. SW

WELL NO. - MAP CODE - CLASSF*: 00315-OX
NAME & ADDRESS OF UNIT OWNER: Hanflad Painting Contracters, Sigel, IL 62462
DESCRIPTION AND COMMENTS: garage w/below ground fuel storage, ISFM #4-003519
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 640 ft. NE

WB:rmi/3546n/16

APPENDIX: B4 INVENTORY AND SYNOPSIS OF UNITS Sigel WELl #4 (IEPA #00315)

Classification (CLASSF*) KEY

MIN. ZONE	OUTSIDE MIN. ZONE
PP = POTENTIAL PRIMARY	OP = POTENTIAL PRIMARY
PS = POTENTIAL SECONDARY	OS = POTENTIAL SECONDARY
RI = POTENTIAL ROUTE	OR = POTENTIAL ROUTE
CC = CERTIFIED	CC = CERTIFIED
XI = UNKNOWN	OX = UNKNOWN
CU = CLEANUP	CU = CLEANUP

WELL NO. - MAP CODE - CLASSF*: 00315-07-OX
NAME & ADDRESS OF UNIT OWNER: Custom Cabinets, Sigel, IL 62462
DESCRIPTION AND COMMENTS: cabinet manufacturer
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 650 ft. ENE

WELL NO. - MAP CODE - CLASSF*: 00315-08-OX
NAME & ADDRESS OF UNIT OWNER: unknow, Sigel, IL 62462
DESCRIPTION AND COMMENTS: former garage w/below ground fuel storage
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 500 ft. SE

WELL NO. - MAP CODE - CLASSF*: 00315-09-OS
NAME & ADDRESS OF UNIT OWNER: Triple S Garage, Box 67, Sigel, IL 62462
DESCRIPTION AND COMMENTS: service station w/below ground fuel storage assumed greater than 500 gallons, ISFM #4-002153
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 450 ft. SE

WELL NO. - MAP CODE - CLASSF*: 00315-10-OX
NAME & ADDRESS OF UNIT OWNER: unknown, Main St., Sigel, IL 62462
DESCRIPTION AND COMMENTS: repari shop w/below ground fuel storage
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 600 ft. SE

WELL NO. - MAP CODE - CLASSF*: 00315-11-
NAME & ADDRESS OF UNIT OWNER: Hewings Technician Services, Main St., Sigel, IL 62462
DESCRIPTION AND COMMENTS: auto and truck repair
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1300 ft. SSE

WELL NO. - MAP CODE - CLASSF*: 00315-12-
NAME & ADDRESS OF UNIT OWNER: unknown, Sigel, IL 62462
DESCRIPTION AND COMMENTS: unmarked building with small above ground fuel tank
PRE OR POST (Y,N): Y
DISTANCE AND DIRECTION: 1500 ft. SSE

WB:rmi/3546n/17

APPENDIX C

FACILITY: 1730350 SIGEL

---------- OWNER ----------

ROBERT L. ZUMBAHLEN
TRUSTEE, VILLAGE HALL
BOX 67
SIGEL IL 62462

---------- OFFICIAL CUSTODIAN ----------

WELL: 00314 WELL 3 AT NE CORNER OF WASH AND SUNSET STATUS: INACTIVE* DEPTH(FT): 52
LATITUDE: N39 13 40.0 LONGITUDE: W088 29 55.0 TWP: RNG: SEC: PLOT:
SUSCEPTIBILITY - LAND BURIAL: SUSCEPTIBILITY - LAND SPREADING: --- MINIMUM SETBACK(FT): 200* ---

WELL: 00315 WELL 4 AT NE CORNER OF WASH AND E FRONT STATUS: ACTIVE DEPTH(FT): 58
LATITUDE: N39 13 35.0 LONGITUDE: W088 29 45.0 TWP: RNG: SEC: PLOT:
SUSCEPTIBILITY - LAND BURIAL: SUSCEPTIBILITY - LAND SPREADING: --- MINIMUM SETBACK(FT): 0200 ---

WELL: 47776 WELL 1 IS AT THE PLANT STATUS: ACTIVE DEPTH(FT): 65
LATITUDE: N39 11 27.0 LONGITUDE: W088 27 35.0 TWP: 09N RNG: 06E SEC: 14 PLOT: 2F
SUSCEPTIBILITY - LAND BURIAL: B2 SUSCEPTIBILITY - LAND SPREADING: D2 --- MINIMUM SETBACK(FT): 0400 ---
AQUIFERS: QUATERNARY SYSTEM

WELL: 47777 WELL 2 IS EAST OF PLANT STATUS: ACTIVE DEPTH(FT): 64
LATITUDE: N39 11 27.0 LONGITUDE: W088 27 11.0 TWP: 09N RNG: 06E SEC: 13 PLOT: 8F
SUSCEPTIBILITY - LAND BURIAL: B2 SUSCEPTIBILITY - LAND SPREADING: D2 --- MINIMUM SETBACK(FT): 0400 ---
AQUIFERS: QUATERNARY SYSTEM

SUSCEPTIBILITY CODES

LAND BURIAL: B2 = SAND AND GRAVEL, WITHIN 20 FT OF SURFACE, OVERLAIN AND UNDERLAIN BY RELATIVELY IMPERMEABLE TILL, OTHER FINE-GRAINED MATERIAL, AND/OR BEDROCK.

LAND SPREADING: D2 = UNIFORM, RELATIVELY IMPERMEABLE SILTY OR CLAYEY TILL AT LEAST 20 FT THICK; NO EVIDENCE OF INTERBEDDED SAND AND GRAVEL.

*NOTE: INACTIVE WELLS SHOULD EITHER BE RETROFITTED FOR USE OR PROPERLY ABANDONED. INACTIVE WELLS WHICH ARE IMPROPERLY ABANDONED ARE CONSIDERED POTENTIAL ROUTES ACCORDING TO P.A. 85-0863.

APPENDIX D

FACILITY: 1730350 SIGEL STATUS: A PUBLIC: Y COMM: Y TYPE WATER: G
IAP: 01 PLANT E OF RT.45 NEAR ELEVATED STATUS: A
RAW SRCE: 47776 WELL 1 IS AT THE PLANT STATUS: A

SAMPLE NO: B71374000 LOCATION: SIGEL WELL 1 COLL DATE: 08/19/87 DELIVERED BY: UPS
SMPL TYPE: RAW COLLECTOR: W BORING LAB RCVD: 08/21/87 RECEIVED BY: MAD
SMPL PURP: S-SPEC/OTHR COMMENTS: LAB COMPL: 11/02/87 LAB SUPERVISOR: RPF
SMPL PROG: I-GWM INORG OBSRVATNS: SMPL PERIOD: 08/87 FUND CODE: PW30

ANALYSIS ID	RSLT NO	STORET NO	DESCRIPTION	UNITS	RESULT		STANDARDS DRINK WTR	STANDARDS RAW WTR	TRIGGER LEVEL
102I000	001	70300	RESIDUE,TOTAL FILTERABLE @180 C,MG/L	MG/L	374.000				
103I000	001	00410	ALKALINITY,TOTAL MG/L AS CACO3	MG/L	335.000				
107I000	001	00951	FLUORIDE,TOTAL MG/L AS F	MG/L	0.480		4.000		
108I000	001	00940	CHLORIDE,TOTAL MG/L AS CL	MG/L	21.000				
109I000	001	00945	SULFATE,TOTAL MG/L AS SO4	MG/L	13.000				
110I000	001	00630	NITRATE & NITRITE TOTAL MG/L AS N	MG/L	0.100	<	10.000		
111I000	001	00610	NITROGEN,AMMONIA TOTAL MG/L AS N	MG/L	1.300				
112I000	001	32730	PHENOLS, TOTAL RECOVERABLE UG/L	UG/L	5.000	<			
114I000	001	00956	SILICA,TOTAL MG/L AS SIO2	MG/L	17.000				
115I000	001	00665	PHOSPHORUS, TOTAL MG/L AS P	MG/L	0.160				
116I000	001	00720	CYANIDE,TOTAL MG/L AS CN	MG/L	0.005	<	0.200		
144I000	001	01002	ARSENIC,TOTAR RECOVERABLE UG/L AS AS	UG/L	2.000		50.000		
151I100	001	01051	LEAD,TOTAL RECOVERABLE UG/L AS PB	UG/L	5.000	<	50.000		
153I000	001	71900	MERCURY,TOTAL UG/L AS HG	UG/L	0.050	<	2.000		
155I000	001	01147	SELENIUM,TOTAL RECOVERABLE UG/L ASSE	UG/L	1.000	<	10.000		
177I100	001	00916	CALCIUM,TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP	MG/L	52.000				
177I100	002	00927	MAGNESIUM,TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP	MG/L	22.000				
177I100	003	00929	SODIUM,TOTAL RECOVERABLE MG/L AS NA ANAL BY ICP	MG/L	66.000				
177I100	004	00937	POTASSIUM,TOTAL RECOVERABLE MG/L AS K ANAL BY ICP	MG/L	1.100				
177I100	005	01105	ALUMINUM,TOTAL RECOVERABLE UG/L ASAL ANAL BY ICP	UG/L	50.000	<			
177I100	006	01007	BARIUM,TOTAL RECOVERABLE UG/L AS BA ANAL BY ICP	UG/L	332.000		1000.000		
177I100	007	01022	BORON,TOTAL RECOVERABLE UG/L AS B ANAL BY ICP	UG/L	50.000	<			
177I100	008	01012	BERYLLIUM,TOTAL RECOVERABLE UG/L AS BE ANAL BY ICP	UG/L	0.500	<			
177I100	009	01027	CADMIUM,TOTAL RECOVERABLE UG/L AS CD ANAL BY ICB	UG/L	3.000	<	10.000		
177I100	010	01034	CHROMIUM,TOTAL RECOVERABLE UG/L ASCR ANAL BY ICB	UG/L	5.000	<	50.000		
177I100	011	01042	COPPER,TOTAL RECOVERABLE UG/L AS CU ANAL BY ICP	UG/L	5.000	<	5000.000		
177I100	012	01037	COBALT,TOTAL RECOVERABLE UG/L AS CO ANAL BY ICP	UG/L	5.000	<			
177I100	013	01045	IRON,TOTAL RECOVERABLE, UG/L AS FEANAL BY ICP	UG/L	1871.000		1000.000*		
177I100	014	01055	MANGANESE,TOTAL RECOVERABLE UG/L AS MN ANAL BY ICP	UG/L	18.000		150.000		
177I100	015	01067	NICKEL,TOTAL RECOVERABLE UG/L AS NI ANALI BY ICP	UG/L	5.000	<			
177I100	016	01077	SILVER,TOTAL RECOVERABLE UG/L AS AG ANAL BY ICP	UG/L	3.000	<	50.000		
177I100	017	01082	STRONTIUM,TOTAL RECOVERABLE UG/L AS SR ANAL BY ICP	UG/L	323.000				
177I100	018	01087	VANADIUM,TOTAL RECOVERABLE UG/L ASV ANAL BY ICP	UG/L	5.000	<			
177I100	019	01092	ZINC,TOTAL RECOVERABLE UG/L AS ZN ANAL BY ICP	UG/L	50.000	<	5000.000		
177I100	020	92394	HARDNESS, CALC - MG/L	MG/L	222.000				
5001200	002	00094	CONDUCTIVITY - FIELD (UMHOS/CM @ 25 C)	UM/CM	630.000				
5001200	003	00090	OXIDATION-REDUCTION POTENTIAL (EH) MILLIVOLTS	MV	135.000-				
5001200	004	00400	PH PH UNITS	UNITS	6.840				
5001200	005	00010	WATER TEMPERATURE DEG C	DEG.C	15.900				

SAMPLE NO: B002525 LOCATION: WELL #1 COLL DATE: 07/20/82 DELIVERED BY:

FACILITY: 1730350 SIGEL

*** CONTINUED ***

SMPL TYPE: RAW COLLECTOR: JOSEPH DUNDEL
SMPL PURP: 1-ROUTINE COMMENTS:
SMPL PROG: I-GWM INORG OBSRVAINS:

LAB RCVD: 10/12/82 RECEIVED BY:
LAB COMPL: LAB SUPERVISOR:
SMPL PERIOD: 07/82 FUND CODE:

ANALYSIS ID	RSLT NO	STOREI NO	DESCRIPTION	UNITS	RESULT		STANDARDS DRINK WTR	STANDARDS RAW WTR	TRIGGER LEVEL
		00095	CONDUCTIVITY(EC)-LAB(UMHOS/CM @ 25 C		670.000				
		00403	PH LABORATORY UNITS		8.000				
		00410	ALKALINITY,TOTAL MG/L AS CACO3		338.000				
		00610	NITROGEN,AMMONIA TOTAL MG/L AS N		1.200				
		00630	NITRATE & NITRITE TOTAL MG/L AS N		0.100	<	10.000		
		00720	CYANIDE,TOTAL MG/L AS CN		0.005	<	0.200		
		00900	HARDNESS,EDTA MG/L AS CACO3		208.000				
		00916	CALCIUM,TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP		53.000				
		00927	MAGNESIUM,TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP		21.600				
		00929	SODIUM,TOTAL RECOVERABLE MG/L AS NA ANAL BY ICP		66.000				
		00937	POTASSIUM,TOTAL RECOVERABLE MG/L AS K ANAL BY ICP		1.200				
		00940	CHLORIDE,TOTAL MG/L AS CL		21.000				
		00945	SULFATE,TOTAL MG/L AS SO4		15.000				
		00951	FLUORIDE,TOTAL MG/L AS F		0.590		4.000		
		00956	SILICA,TOTAL MG/L AS SIO2		17.000				
		01002	ARSENIC,TOTAR RECOVERABLE UG/L AS AS		3.000		50.000		
		01007	BARIUM,TOTAL RECOVERABLE UG/L AS BA ANAL BY ICP		379.000		1000.000		
		01012	BERYLLIUM,TOTAL RECOVERABLE UG/L AS BE ANAL BY ICP		0.500	<			
		01022	BORON,TOTAL RECOVERABLE UG/L AS B ANAL BY ICP		60.000				
		01027	CADMIUM,TOTAL RECOVERABLE UG/L AS CD ANAL BY ICB		3.000	<	10.000		
		01034	CHROMIUM,TOTAL RECOVERABLE UG/L ASCR ANAL BY ICB		5.000	<	50.000		
		01037	COBALT,TOTAL RECOVERABLE UG/L AS CO ANAL BY ICP		5.000	<			
		01042	COPPER,TOTAL RECOVERABLE UG/L AS CU ANAL BY ICP		3.000	<	5000.000		
		01045	IRON,TOTAL RECOVERABLE, UG/L AS FEANAL BY ICP		1800.000		1000.000*		
		01051	LEAD,TOTAL RECOVERABLE UG/L AS PB		5.000	<	50.000		
		01055	MANGANESE,TOTAL RECOVERABLE UG/L AS MN ANAL BY ICP		12.000		150.000		
		01067	NICKEL,TOTAL RECOVERABLE UG/L AS NI ANAL BY ICP		3.000	<			
		01077	SILVER,TOTAL RECOVERABLE UG/L AS AG ANAL BY ICP		5.000	<	50.000		
		01082	STRONTIUM,TOTAL RECOVERABLE UG/L AS SR ANAL BY ICP		319.000				
		01087	VANADIUM,TOTAL RECOVERABLE UG/L ASV ANAL BY ICP		4.000	<			
		01092	ZINC,TOTAL RECOVERABLE UG/L AS ZN ANAL BY ICP		2.000	<	5000.000		
		01147	SELENIUM,TOTAL RECOVERABLE UG/L ASSE		1.000	<	10,000		
		70300	RESIDUE,TOTAL FILTERABLE @180 C,MG/L		413.000				
		70304	TOTAL DISSOLVED SOLIDS MG/L BY EC		400.000				
		71900	MERCURY,TOTAL UG/L AS HG		0.050	<	2.000		

SAMPLE NO: D75847300 LOCATION: TEUTOPOLIS WELL 1
SMPL TYPE: RAW COLLECTOR: N BORING
SMPL PURP: 5-SPEC/OTHR COMMENTS: VOCS
SMPL PROG: V-VOC OBSRVAINS: 2 VOC

COLL DATE: 08/19/87 DELIVERED BY: W B
LAB RCVD: 08/20/87 RECEIVED BY: D V
LAB COMPL: 09/02/87 LAB SUPERVISOR: JTH
SMPL PERIOD: 08/87 FUND CODE: PW30

FACILITY: 1730350 SIGEL *** CONTINUED ***

ANALYSIS ID	RSLT ND	STORET NO	DESCRIPTION	UNITS	RESULT		STANDARDS DRINK WTR	STANDARDS RAW WTR	TRIGGER LEVEL
931A 00	001	32106	CHLOROFORM UG/L GC/MS	UG/L	1.000	<			
931A 00	002	32101	BROMODICHLOROMETHANE UG/L GC/MS	UG/L	1.000	<			
931A 00	003	32105	DIBROMOCHLOROMETHANE UG/L GC/MS	UG/L	1.000	<			
931A 00	004	32104	BROMOFORM UG/L GC/MS	UG/L	1.000	<			
931A 00	005	34423	METHYLENE CHLORIDE UG/L	UG/L	1.000	<			
931A 00	006	34501	1,1-DICHLOROETHYLENE UG/L GC/MS	UG/L	1.000	<	7.000		
931A 00	007	34496	1,1-DICHLOROETHANE UG/L GC/MS	UG/L	1.000	<			
931A 00	008	34546	TRANS-1,2-DICHLOROETHYLENE UG/L GC/MS	UG/L	1.000	<			
931A 00	009	77279	1,2-DICHLOROETHANE UG/L	UG/L	1.000	<	5.000		
931A 00	010	34506	1,1,1-TRICHLOROETHANE UG/L GC/MS	UG/L	1.000	<	200.000		
931A 00	011	32102	CARBON TETRACHLORIDE UG/L GC/MS	UG/L	1.000	<	5.000		
931A 00	012	39180	TRICHLOROETHYLENE UG/L	UG/L	1.000	<	5.000		
931A 00	013	34475	TETRACHLOROETHYLENE UG/L GC/MS	UG/L	1.000	<			
931A 00	014	34301	CHLOROBENZENE UG/L	UG/L	1.000	<			
931A 00	015	34716	DICHLOROBENZENE UG/L	UG/L	1.000	<			
931A 00	016	78124	BENZENE UG/L	UG/L	1.000	<	5.000		
931A 00	017	78131	TOLUENE UG/L	UG/L	1.000	<			
931A 00	018	78113	ETHYLBENZENE UG/L	UG/L	1.000	<			
931A 00	019	81551	XYLENE UG/L	UG/L	1.000	<			
5001200	002	00094	CONDUCTIVITY - FIELD (UMHOS/CM @ 25 C)	UM/CM	630.000				
5001200	003	00090	OXIDATION-REDUCTION POTENTIAL (EH) MILLIVOLTS	MV	135.000-				
5001200	004	00400	PH PH UNITS	UNITS	6.840				
5001200	005	00010	WATER TEMPERATURE DEG C	DEG.C	15.900				

FACILITY: 1730350 SIGEL STATUS: A PUBLIC: Y COMM: Y TYPE WATER: G
TAP: 01 PLANT E OF RT.45 NEAR ELEVATED STATUS: A
RAW SRCE: 47777 WELL 2 IS EAST OF PLANT STATUS: A

SAMPLE NO: B71373500 LOCATION: SIGEL WELL 2 COLL DATE: 08/19/87 DELIVERED BY: UPS
SMPL TYPE: RAW COLLECTOR: N BORING LAB RCVD: 08/21/87 RECEIVED BY: MAD
SMPL PURP: 5-SPEC/OTHR COMMENTS: LAB COMPL: 11/02/87 LAB SUPERVISOR: RPF
SMPL PROG: I-GWM INORG OBSRVATNS: SMPL PERIOD: 08/87 FUND CODE: PW30

ANALYSIS ID	RSLT ND	STORET NO	DESCRIPTION	UNITS	RESULT		STANDARDS DRINK WTR	STANDARDS RAW WTR	TRIGGER LEVEL
102I000	001	70300	RESIDUE,TOTAL FILTERABLE @180 C,MG/L	MG/L	373.000				
103I000	001	00410	ALKALINITY,TOTAL MG/L AS CACO3	MG/L	335.000				
107I000	001	00951	FLUORIDE,TOTAL MG/L AS F	MG/L	0.410		4.000		
108I000	001	00940	CHLORIDE,TOTAL MG/L AS CL	MG/L	19.000				
109I000	001	00945	SULFATE,TOTAL MG/L AS SO4	MG/L	26.000				
110I000	001	00630	NITRATE & NITRITE TOTAL MG/L AS N	MG/L	0.100	<	10.000		
111I000	001	00610	NITROGEN,AMMONIA TOTAL MG/L AS N	MG/L	0.930				
112I000	001	32730	PHENOLS, TOTAL RECOVERABLE UG/L	UG/L	5.000	<			
114I000	001	00956	SILICA,TOTAL MG/L AS SIO2	MG/L	18.000				
115I000	001	00665	PHOSPHORUS, TOTAL MG/L AS P	MG/L	0.020				
116I000	001	00720	CYANIDE,TOTAL MG/L AS CN	MG/L	0.005	<	0.200		

FACILITY: 1730350 SIGEL *** CONTINUED ***

144T000	001	01002	ARSENIC,TOTAR RECOVERABLE UG/L AS AS	UG/L	1.000	<	50.000	
151T100	001	01051	LEAD,TOTAL RECOVERABLE UG/L AS PB	UG/L	5.000	<	50.000	
153T000	001	71900	MERCURY,TOTAL UG/L AS HG	UG/L	0.050	<	2.000	
155T000	001	01147	SELENIUM,TOTALL RECOVERABLE UG/L ASSE	UG/L	1.000	<	10.000	
177T100	001	00916	CALCIUM,TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP	MG/L	59.000			
177T100	002	00927	MAGNESIUM,TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP	MG/L	24.000			
177T100	003	00929	SODIUM,TOTAL RECOVERABLE MG/L AS NA ANAL BY ICP	MG/L	61.000			
177T100	004	00937	POTASSIUM,TOTAL RECOVERABLE MG/L AS K ANAL BY ICP	MG/L	1.100			
177T100	005	01105	ALUMINUM,TOTAL RECOVERABLE UG/L ASAL ANAL BY ICP	UG/L	50.000	<		
177T100	006	01007	BARIUM,TOTAL RECOVERABLE UG/L AS BA ANAL BY ICP	UG/L	217.000		1000.000	
177T100	007	01022	BORON,TOTAL RECOVERABLE UG/L AS B ANAL BY ICP	UG/L	50.000	<		
177T100	008	01012	BERYLLIUM,TOTAL RECOVERABLE UG/L AS BE ANAL BY ICP	UG/L	0.500	<		
177T100	009	01027	CADMIUM,TOTAL RECOVERABLE UG/L AS CD ANAL BY ICB	UG/L	3.000	<	10.000	
177T100	010	01034	CHROMIUM,TOTAL RECOVERABLE UG/L ASCR ANAL BY ICB	UG/L	5.000	<	50.000	
177T100	011	01042	COPPER,TOTAL RECOVERABLE UG/L AS CU ANAL BY ICP	UG/L	5.000	<	5000.000	
177T100	012	01037	COBALT,TOTAL RECOVERABLE UG/L AS CO ANAL BY ICP	UG/L	5.000	<		
177T100	013	01045	IRON,TOTAL RECOVERABLE, UG/L AS FEANAL BY ICP	UG/L	148.000		1000.000	
177T100	014	01055	MANGANESE,TOTAL RECOVERABLE UG/L AS MN ANAL BY ICP	UG/L	80.000		150.000	
177T100	015	01067	NICKEL,TOTAL RECOVERABLE UG/L AS NI ANAL BY ICP	UG/L	5.000	<		
177T100	016	01077	SILVER,TOTAL RECOVERABLE UG/L AS AG ANAL BY ICP	UG/L	3.000	<	50.000	
177T100	017	01082	STRONTIUM,TOTAL RECOVERABLE UG/L AS SR ANAL BY ICP	UG/L	246.000			
177T100	018	01087	VANADIUM,TOTAL RECOVERABLE UG/L ASV ANAL BY ICP	UG/L	5.000	<		
177T100	019	01092	ZINC,TOTAL RECOVERABLE UG/L AS ZN ANAL BY ICP	UG/L	50.000	<	5000.000	
177T100	020	82394	HARDNESS, CALC - MG/L	MG/L	244.000			
5001200	002	00094	CONDUCTIVITY - FIELD (UMHOS/CM @ 25 C)	UM/CM	645.000			
5001200	003	00090	OXIDATION-REDUCTION POTENTIAL (EH) MILLIVOLTS	MV	88.000-			
5001200	004	00400	PH PH UNITS	UNITS	6.980			
5001200	005	00010	WATER TEMPERATURE DEG C	DEG.C	17.200			

SAMPLE NO: B71373800 LOCATION: SIGEL WELL 2 COLL DATE: 08/19/87 DELIVERED BY: UPS
SMPL TYPE: RAW COLLECTOR: N BORING LAB RCVD: 08/21/87 RECEIVED BY: MAD
SMPL PURP: 1-ROUTINE COMMENTS: LAB COMPL: 11/02/87 LAB SUPERVISOR: RPF
SMPL PROG: I-GWM INORG OBSRVATNS: SMPL PERIOD: 08/87 FUND CODE: PW30

ANALYSIS ID	RSLT NO	STORET NO	DESCRIPTION	UNITS	RESULT		STANDARDS DRINK WTR	STANDARDS RAW WTR	TRIGGER LEVEL
102T000	001	70300	RESIDUE,TOTAL FILTERABLE @180 C,MG/L	MG/L	389.000				
103T000	001	00410	ALKALINITY,TOTAL MG/L AS CACO3	MG/L	336.000				
107T000	001	00951	FLUORIDE,TOTAL MG/L AS F	MG/L	0.410		4.000		
108T000	001	00940	CHLORIDE,TOTAL MG/L AS CL	MG/L	19.000				
109T000	001	00945	SULFATE,TOTAL MG/L AS SO4	MG/L	26.000				
110T000	001	00630	NITRATE & NITRITE TOTAL MG/L AS N	MG/L	0.100	<	10.000		
111T000	001	00610	NITROGEN,AMMONIA TOTAL MG/L AS N	MG/L	0.990				
112T000	001	32730	PHENOLS, TOTAL RECOVERABLE UG/L	UG/L	5.000	<			
114T000	001	00956	SILICA,TOTAL MG/L AS SIO2	MG/L	10.000				
115T000	001	00665	PHOSPHORUS, TOTAL MG/L AS P	MG/L	0.020				
116T000	001	00720	CYANIDE,TOTAL MG/L AS CN	MG/L	0.005	<	0.200		
144T000	001	01002	ARSENIC,TOTAR RECOVERABLE UG/L AS AS	UG/L	1.000	<	50.000		
151T100	001	01051	LEAD,TOTAL RECOVERABLE UG/L AS PB	UG/L	5.000	<	50.000		

FACILITY: 1730350 SIGEL *** CONTINUED ***

1531000	001	71900	MERCURY,TOTAL UG/L AS HG	UG/L	0.050	<	2.000
1551000	001	01147	SELENIUM,TOTAL RECOVERABLE UG/L ASSE	UG/L	1.000	<	10.000
1771100	001	00916	CALCIUM,TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP	MG/L	59.000		
1771100	002	00927	MAGNESIUM,TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP	MG/L	24.000		
1771100	003	00929	SODIUM,TOTAL RECOVERABLE MG/L AS NA ANAL BY ICP	MG/L	62.000		
1771100	004	00937	POTASSIUM,TOTAL RECOVERABLE MG/L AS K ANAL BY ICP	MG/L	1.100		
1771100	005	01105	ALUMINUM,TOTAL RECOVERABLE UG/L ASAL ANAL BY ICP	UG/L	50.000	<	
1771100	006	01007	BARIUM,TOTAL RECOVERABLE UG/L AS BA ANAL BY ICP	UG/L	219.000		1000.000
1771100	007	01022	BORON,TOTAL RECOVERABLE UG/L AS B ANAL BY ICP	UG/L	50.000	<	
1771100	008	01012	BERYLLIUM,TOTAL RECOVERABLE UG/L AS BE ANAL BY ICP	UG/L	0.500	<	
1771100	009	01027	CADMIUM,TOTAL RECOVERABLE UG/L AS CD ANAL BY ICB	UG/L	3.000	<	10.000
1771100	010	01034	CHROMIUM,TOTAL RECOVERABLE UG/L ASCR ANAL BY ICB	UG/L	5.000	<	50.000
1771100	011	01042	COPPER,TOTAL RECOVERABLE UG/L AS CU ANAL BY ICP	UG/L	5.000	<	5000.000
1771100	012	01037	COBALT,TOTAL RECOVERABLE UG/L AS CO ANAL BY ICP	UG/L	5.000	<	
1771100	013	01045	IRON,TOTAL RECOVERABLE, UG/L AS FEANAL BY ICP	UG/L	178.000		1000.000
1771100	014	01055	MANGANESE,TOTAL RECOVERABLE UG/L AS MN ANAL BY ICP	UG/L	81.000		150.000
1771100	015	01067	NICKEL,TOTAL RECOVERABLE UG/L AS NI ANAL BY ICP	UG/L	5.000	<	
1771100	016	01077	SILVER,TOTAL RECOVERABLE UG/L AS AG ANAL BY ICP	UG/L	3.000	<	50.000
1771100	017	01082	STRONTIUM,TOTAL RECOVERABLE UG/L AS SR ANAL BY ICP	UG/L	248.000		
1771100	018	01087	VANADIUM,TOTAL RECOVERABLE UG/L ASV ANAL BY ICP	UG/L	5.000	<	
1771100	019	01092	ZINC,TOTAL RECOVERABLE UG/L AS ZN ANAL BY ICP	UG/L	50.000	<	5000.000
1771100	020	82394	HARDNESS, CALC - MG/L	MG/L	246.000		
5001200	002	00094	CONDUCTIVITY - FIELD (UMHOS/CM @ 25 C)	UM/CM	645.000		
5001200	003	00090	OXIDATION-REDUCTION POTENTIAL (EH) MILLIVOLTS	MV	88.000-		
5001200	004	00400	PH PH UNITS	UNITS	6.980		
5001200	005	00010	WATER TEMPERATURE DEG C	DEG.C	17.200		

SAMPLE NO: B002522 LOCATION: WELL #2
SMPL TYPE: RAW COLLECTOR: JOSEPH DUNDEL
SMPL PURP: 1-ROUTINE COMMENTS:
SMPL PROG: I-GWM INORG OBSRVATNS:

COLL DATE: 07/20/82 DELIVERED BY:
LAB RCVD: 10/12/82 RECEIVED BY:
LAB COMPL: LAB SUPERVISOR:
SMPL PERIOD: 07/82 FUND CODE:

ANALYSIS ID	RSLT NO	STORET NO	DESCRIPTION	UNITS	RESULT		STANDARDS DRINK WTR	STANDARDS RAW WTR	TRIGGER LEVEL
		00095	CONDUCTIVITY(EC)-LAB(UMHOS/CM @ 25 C		740.000				
		00403	PH LABORATORY UNITS		7.700				
		00410	ALKALINITY,TOTAL MG/L AS CACO3		953.000				
		00610	NITROGEN,AMMONIA TOTAL MG/L AS N		0.970				
		00630	NITRATE & NITRITE TOTAL MG/L AS N		0.100	<	10.000		
		00720	CYANIDE,TOTAL MG/L AS CN		0.005	<	0.200		
		00900	HARDNESS,EDTA MG/L AS CACO3		265.000				
		00916	CALCIUM,TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP		64.000				
		00927	MAGNESIUM,TOTAL RECOVERABLE MG/L AS CA ANAL BY ICP		24.600				
		00929	SODIUM,TOTAL RECOVERABLE MG/L AS NA ANAL BY ICP		63.000				
		00937	POTASSIUM,TOTAL RECOVERABLE MG/L AS K ANAL BY ICP		7.200				
		00940	CHLORIDE,TOTAL MG/L AS CL		22.000				
		00945	SULFATE,TOTAL MG/L AS SO4		35.000				
		00951	FLUORIDE,TOTAL MG/L AS F		0.510		4.000		
		00956	SILICA,TOTAL MG/L AS SIO2		18.000				

FACILITY: 1730350 SIGEL

*** CONTINUED ***

01002	ARSENIC,IDIAR RECOVERABLE UG/L AS AS	1.000 <	50.000
01007	BARIUM,TOTAL RECOVERABLE UG/L AS BA ANAL BY ICP	232.000	1000.000
01012	BERYLLIUM,IDIAL RECOVERABLE UG/L AS BE ANAL BY ICP	0.500 <	
01022	BORON,IDIAL RECOVERABLE UG/L AS B ANAL BY ICP	60.000	
01027	CADMIUM,TOTAL RECOVERABLE UG/L AS CD ANAL BY ICB	3.000 <	10.000
01034	CHROMIUM,IDIAL RECOVERABLE UG/L ASCR ANAL BY ICB	15.000	50.000
01037	COBALI,TUTAL RECOVERABLE UG/L AS CO ANAL BY ICP	5.000 <	
01042	COPPER,TOTAL RECOVERABLE UG/L AS CU ANAL BY ICP	3.000 <	5000.000
01045	IRON,TOTAL RECOVERABLE, UG/L AS FEANAL BY ICP	250.000	1000.000
01051	LEAD,TOTAL RECOVERABLE UG/L AS PB	5.000 <	50.000
01055	MANGANESE,IDIAL RECOVERABLE UG/L AS MN ANAL BY ICP	63.000	150.000
01067	NICKEL,TOTAL RECOVERABLE UG/L AS NI ANAL BY ICP	3.000	
01077	SILVER,IDIAL RECOVERABLE UG/L AS AG ANAL BY ICP	5.000 <	50.000
01082	STRONTIUM,TOTAL RECOVERABLE UG/L AS SR ANAL BY ICP	266.000	
01087	VANADIUM,TOTAL RECOVERABLE UG/L ASV ANAL BY ICP	4.000 <	
01092	ZINC,TOTAL RECOVERABLE UG/L AS ZN ANAL BY ICP	2.000 <	5000.000
01147	SELENIUM,TOTAL RECOVERABLE UG/L ASSE	1.000 <	10.000
70300	RESIDUE,TOTAL FILTERABLE @180 C,MG/L	465.000	
70304	TOTAL DISSOLVED SOLIDS MG/L BY EC	440.000	
71900	MERCURY,TOTAL UG/L AS HG	0.050 <	2.000

SAMPLE NO: D970989 LOCATION: WELL 2 COLL DATE: 02/07/89 DELIVERED BY:
SMPL TYPE: RAW COLLECTOR: CP LAB RCVD: 02/08/89 RECEIVED BY:
SMPL PURP: 9-VARIANCE COMMENTS: LAB COMPL: LAB SUPERVISOR:
SMPL PROG: V-VOC OBSRVATNS: SMPL PERIOD: 02/89 FUND CODE: PW30

ANALYSIS ID	RSLT NO	STORET NO	DESCRIPTION	UNITS	RESULT	STANDARDS DRINK WTR	STANDARDS RAW WTR	TRIGGER LEVEL
		32101	BROMODICHLOROMETHANE UG/L CG/MS		1.000 <			
		32102	CARBON TETRACHLORIDE UG/L CG/MS		1.000 <	5.000		
		32104	BROMOFORM UG/L CG/MS		1.000 <			
		32105	DIBROMOCHLOROMETHANE UG/L GC/MS		1.000 <			
		32106	CHLOROFORM UG/L GC/MS		1.000 <			
		34301	CHLOROBENZENE UG/L		1.000 <			
		34423	METHYLENE CHLORIDE UG/L		1.000 <			
		34475	TETRACHLOROETHYLENE UG/L GC/MS		1.000 <			
		34496	1,1-DICHLOROETHANE UG/L GC/MS		1.000 <			
		34501	1,1-DICHLOROETHYLENE UG/L GC/MS		1.000 <	7.000		
		34506	1,1,1-TRICHLOROETHANE UG/L GC/MS		1.000 <	200.000		
		34531	1,2-DICHLOROETHANE UG/L		1.000 <	5.000		
		34546	TRANS-1,2-DICHLOROETHYLENE UG/L GC/MS		1.000 <			
		34716	DICHLOROBENZENE UG/L		1.000 <			
		39180	TRICHLOROETHYLENE UG/L		1.000 <	5.000		
		78113	ETHYLBENZENE UG/L		1.000 <			
		78124	BENZENE UG/L		1.000 <	5.000		
		78131	TOLUENE UG/L		1.000 <			
		81551	XYLENE UG/L		1.000 <			

SAMPLE NO: D86748500 LOCATION: TEUTOPOLIS/SIGEL/WELL 2 BEFORE AERATOR COLL DATE: 09/14/88 DELIVERED BY: MAIL

FACILITY: 1730350 SIGEL *** CONTINUED ***

SMPL TYPE: RAW COLLECTOR: C P
SMPL PURP: 9-VARIANCE COMMENTS: VOCS
SMPL PROG: V-VOC OBSRVATNS: 2 VOC

LAB RCVD: 09/15/88 RECEIVED BY: MSB
LAB COMPL: 10/03/88 LAB SUPERVISOR: JTH
SMPL PERIOD: 09/88 FUND CODE: PW30

ANALYSIS ID	RSLT NO	STORET NO	DESCRIPTION	UNITS	RESULT	STANDARDS DRINK WTR	STANDARDS RAW WTR	TRIGGER LEVEL
431WV00	001	32106	CHLOROFORM UG/L GC/MS	UG/L	1.000 <			
431WV00	002	32101	BROMODICHLOROMETHANE UG/L GC/MS	UG/L	1.000 <			
431WV00	003	32105	DIBROMOCHLOROMETHANE UG/L GC/MS	UG/L	1.000 <			
431WV00	004	32104	BROMOFORM UG/L GC/MS	UG/L	1.000 <			
431WV00	005	34423	METHYLENE CHLORIDE UG/L	UG/L	1.000 <			
431WV00	006	34501	1,1-DICHLOROETHYLENE UG/L GC/MS	UG/L	1.000 <	7.000		
431WV00	007	34496	1,1-DICHLOROETHANE UG/L GC/MS	UG/L	1.000 <			
431WV00	008	34546	TRANS-1,2-DICHLOROETHYLENE UG/L GC/MS	UG/L	1.000 <			
431WV00	009	34531	1,2-DICHLOROETHANE UG/L	UG/L	1.000 <	5.000		
431WV00	010	34506	1,1,1-TRICHLOROETHANE UG/L GC/MS	UG/L	1.000 <	200.000		
431WV00	011	32102	CARBON TETRACHLORIDE UG/L GC/MS	UG/L	1.000 <	5.000		
431WV00	012	39180	TRICHLOROETHYLENE UG/L	UG/L	1.000 <	5.000		
431WV00	013	34475	TETRACHLOROETHYLENE UG/L GC/MS	UG/L	1.000 <			
431WV00	014	34301	CHLOROBENZENE UG/L	UG/L	1.000 <			
431WV00	015	34716	DICHLOROBENZENE UG/L	UG/L	1.000 <			
431WV00	016	78124	BENZENE UG/L	UG/L	1.000 <	5.000		
431WV00	017	78131	TOLUENE UG/L	UG/L	1.000 <			
431WV00	018	78113	ETHYLBENZENE UG/L	UG/L	1.000 <			
431WV00	019	81551	XYLENE UG/L	UG/L	1.000 <			

SAMPLE NO: D86415500 LOCATION: SIGEL/WELL 2
SMPL TYPE: RAW COLLECTOR: C P
SMPL PURP: 9-VARIANCE COMMENTS: VOC'S
SMPL PROG: V-VOC OBSRVATNS: 2 VOC

COLL DATE: 04/19/88 DELIVERED BY: MAIL
LAB RCVD: 04/20/88 RECEIVED BY: D V
LAB COMPL: 05/19/88 LAB SUPERVISOR: JTH
SMPL PERIOD: 04/88 FUND CODE: PW30

ANALYSIS ID	RSLT NO	STORET NO	DESCRIPTION	UNITS	RESULT	STANDARDS DRINK WTR	STANDARDS RAW WTR	TRIGGER LEVEL
431WV00	001	32106	CHLOROFORM UG/L GC/MS	UG/L	1.000 <			
431WV00	002	32101	BROMODICHLOROMETHANE UG/L GC/MS	UG/L	1.000 <			
431WV00	003	32105	DIBROMOCHLOROMETHANE UG/L GC/MS	UG/L	1.000 <			
431WV00	004	32104	BROMOFORM UG/L GC/MS	UG/L	1.000 <			
431WV00	005	34423	METHYLENE CHLORIDE UG/L	UG/L	1.000 <			
431WV00	006	34501	1,1-DICHLOROETHYLENE UG/L GC/MS	UG/L	1.000 <	7.000		
431WV00	007	34496	1,1-DICHLOROETHANE UG/L GC/MS	UG/L	1.000 <			
431WV00	008	34546	TRANS-1,2-DICHLOROETHYLENE UG/L GC/MS	UG/L	1.000 <			
431WV00	009	34531	1,2-DICHLOROETHANE UG/L	UG/L	1.000 <	5.000		
431WV00	010	34506	1,1,1-TRICHLOROETHANE UG/L GC/MS	UG/L	1.000 <	200.000		
431WV00	011	32102	CARBON TETRACHLORIDE UG/L GC/MS	UG/L	1.000 <	5.000		
431WV00	012	39180	TRICHLOROETHYLENE UG/L	UG/L	1.000 <	5.000		
431WV00	013	34475	TETRACHLOROETHYLENE UG/L GC/MS	UG/L	1.000 <			
431WV00	014	34301	CHLOROBENZENE UG/L	UG/L	1.000 <			
431WV00	015	34716	DICHLOROBENZENE UG/L	UG/L	1.000 <			

FACILITY: 1730350 SIGEL *** CONTINUED ***

431WV00	016	78124	BENZENE UG/L	UG/L	1.000 <	5.000	
431WV00	017	78131	TOLUENE UG/L	UG/L	1.000 <		
431WV00	018	78113	ETHYLBENZENE UG/L	UG/L	1.000 <		
431WV00	019	81551	XYLENE UG/L	UG/L	1.000 <		

SAMPLE NO: D862233 LOCATION: WELL 2 COLL DATE: 01/27/86 DELIVERED BY:
SMPL TYPE: RAW COLLECTOR: CP LAB RCVD: 01/27/86 RECEIVED BY:
SMPL PURP: 9-VARIANCE COMMENTS: LAB COMPL: LAB SUPERVISOR:
SMPL PROG: V-VOC OBSRVATNS: SMPL PERIOD: 01/86 FUND CODE: PW30

ANALYSIS ID	RSLT NO	STORET NO	DESCRIPTION	UNITS	RESULT	STANDARDS DRINK WTR	STANDARDS RAW WTR	TRIGGER LEVEL
		32101	BROMODICHLOROMETHANE UG/L GC/MS		1.000 <			
		32102	CARBON TETRACHLORIDE UG/L GC/MS		1.000 <	5.000		
		32104	BROMOFORM UG/L GC/MS		1.000 <			
		32105	DIBROMOCHLOROMETHANE UG/L GC/MS		1.000 <			
		32106	CHLOROFORM UG/L GC/MS		1.000 <			
		34301	CHLOROBENZENE UG/L		1.000 <			
		34423	METHYLENE CHLORIDE UG/L		1.000 <			
		34475	TETRACHLOROETHYLENE UG/L GC/MS		1.000 <			
		34496	1,1-DICHLOROETHANE UG/L GC/MS		1.000 <			
		34501	1,1-DICHLOROETHYLENE UG/L GC/MS		1.000 <	7.000		
		34506	1,1,1-TRICHLOROETHANE UG/L GC/MS		1.000 <	200.000		
		34531	1,2-DICHLOROETHANE UG/L		1.000 <	5.000		
		34546	TRANS-1,2-DICHLOROETHYLENE UG/L GC/MS		1.000 <			
		34716	DICHLOROBENZENE UG/L		1.000 <			
		39180	TRICHLOROETHYLENE UG/L		1.000 <	5.000		
		78113	ETHYLBENZENE UG/L		1.000 <			
		78124	BENZENE UG/L		1.000 <	5.000		
		78131	TOLUENE UG/L		1.000 <			
		81551	XYLENE UG/L		1.000 <			

SAMPLE NO: D75847400 LOCATION: IEVIOPOLIS WELL 2 COLL DATE: 08/19/87 DELIVERED BY: W B
SMPL TYPE: RAW COLLECTOR: W BORING LAB RCVD: 08/20/87 RECEIVED BY: D V
SMPL PURP: 5-SPEC/OTHR COMMENTS: VOCS LAB COMPL: 09/02/87 LAB SUPERVISOR: JTH
SMPL PROG: V-VOC OBSRVATNS: 2 VOC SMPL PERIOD: 08/87 FUND CODE: PW30

ANALYSIS ID	RSLT NO	STORET NO	DESCRIPTION	UNITS	RESULT	STANDARDS DRINK WTR	STANDARDS RAW WTR	TRIGGER LEVEL
431A 00	001	32106	CHLOROFORM UG/L GC/MS	UG/L	1.000 <			
431A 00	002	32101	BROMODICHLOROMETHANE UG/L GC/MS	UG/L	1.000 <			
431A 00	003	32105	DIBROMOCHLOROMETHANE UG/L GC/MS	UG/L	1.000 <			
431A 00	004	32104	BROMOFORM UG/L GC/MS	UG/L	1.000 <			
431A 00	005	34423	METHYLENE CHLORIDE UG/L	UG/L	1.000 <			
431A 00	006	34501	1,1-DICHLOROETHYLENE UG/L GC/MS	UG/L	1.000 <	7.000		
431A 00	007	34496	1,1-DICHLOROETHANE UG/L GC/MS	UG/L	1.000 <			
431A 00	008	34546	TRANS-1,2-DICHLOROETHYLENE UG/L GC/MS	UG/L	1.000 <			
431A 00	009	77279	1,2-DICHLOROETHANE UG/L	UG/L	1.000 <	5.000		

FACILITY: 1730350 SIGEL *** CONTINUED ***

431A 00	010	34506	1,1,1-TRICHLORDETHANE UG/L GC/MS	UG/L	2.000		200.000
431A 00	011	32102	CARBON TETRACHLORIDE UG/L GC/MS	UG/L	1.000	<	5.000
431A 00	012	39180	TRICHLORDETHYLENE UG/L	UG/L	1.000	<	5.000
431A 00	013	34475	TETRACHLORDETHYLENE UG/L GC/MS	UG/L	1.000	<	
431A 00	014	34301	CHLORDBENZENE UG/L	UG/L	1.000	<	
431A 00	015	34716	DICHLORDBENZENE UG/L	UG/L	1.000	<	
431A 00	016	78124	BENZENE UG/L	UG/L	1.000	<	5.000
431A 00	017	78131	TOLUENE UG/L	UG/L	1.000	<	
431A 00	018	78113	ETHYLBENZENE UG/L	UG/L	1.000	<	
431A 00	019	81551	XYLENE UG/L	UG/L	1.000	<	
5001200	002	00094	CONDUCTIVITY - FIELD (UMHOS/CM @ 25 C)	UM/CM	645.000		
5001200	003	00090	OXIDATION-REDUCTION POTENTIAL (EH) MILLIVOLTS	MV	88.000-		
5001200	004	00400	PH PH UNITS	UNITS	6.980		
5001200	005	00010	WATER TEMPERATURE DEG C	DEG.C	17.200		

APPENDIX E

HAZARDOUS REVIEW WORKSHEET

1. Unique I.D. Number 00315-04-XI. Distance and Direction from the Wellhead 270 feet northwest

2. Nature of Business Grain elevator

3. DLPC Permit Number(s) and Description (e.g., RCRA, Generic, Solid Waste, UIC, etc.): none

4. DAPC Permit Number(s) and Description: permit #72100272 for fertilizer blending

5. DWPC Permit Numbers and description (e.g., NPDES, Industrial Pre-Treatment, Sewer Plans, etc.): none

6. ERU Incidents and Description: none

7. ERU 313 Reports and Description: none

8. ESDA 302/303 Reports and Description: none

9. ESDA 311/312 Reports and Description: none

10. PWS compliance monitoring conducted and describe the results (e.e., VOC/VOA sample detects, etc.): none

11. ISFM list the underground storage tanks registered, provide the owner name and address:

Owner Name	Address
tank not registered	

12. Is the site sewered or non-sewered? sewered

If the site is not sewered, describe: _____

13. Has on-site past or present landfilling, land treating, or surface impoundment of waste, other than landscape waste or construction and demolition debris occurred?
[ ] Yes, If yes, describe: _____

[X] No

14. Are there currently any on-site piles of special or hazardous waste?
[ ] Yes If yes, describe: _____

[ ] No

15. Are on-site piles of waste (other than special or hazardous wastes) managed according to Agency guidelines?
[X] Yes

[ ] No If no, describe: _____

16. Are there currently any underground storage tanks present on-site, and will any underground tanks be installed in the future?
[X] Yes If yes, describe: 1 tank, size unknown

[ ] No

17(a). Has any situation(s) occurred at this site when resulted in a "release" of any hazardous substance or petroleum?

[ ] Yes (continued to next question
[X] No (stop here)

(b). Have any hazardous substances or petroleum, which were released, come into contact with the ground surface at this site? (Note--do not automatically exclude paved or otherwise covered areas that may still have allowed chemical substances to penetrate into the ground.)

[ ] Yes (continue to next question)
[ ] No (stop here)

(c). Have any of the following actions/events been associated with the release(s) referred to in question 17(b)?

[ ] Hiring of a cleanup contractor to remove obviously contaminate materials including subsoils

[ ] Replacement or major repair of damaged facilities

[ ] Assignment of in-house maintenance staff to remove obviously contaminated materials including subsoils

[ ] Designation, by IEPA or the ESDA, of a release as "significant" under the Illinois Chemical Safety Act

[ ] Reordering or other replenishment of inventory due to the amount of substance lost

[ ] Temporary or more long-term monitoring of groundwater at or near the site

[ ] Stop usage of an on-site or nearby water well because of offensive characteristics of the water

[ ] Coping with fumes from subsurface storm drains or inside basements

[ ] Signs of substances leaching out of the ground along the base of slopes or at other low points on or adjacent to the site

(d). The on-site release(s) may have been of sufficient magnitude to contaminate groundwaters. Summarize the problem.

_____
_____
_____
_____
_____

18. Are there more than 100 gallons of either pesticides or organic solvents, or 10,000 gallons of any hazardous substance, or 30,000 gallons of petroleum present at any time?

[ ] Yes, If yes, describe: amount of fertilizer stored onsite unknown
_____

[ ] No

19. Do any of the regulated entities have groundwater monitoring systems, and have any exceeded compliance requirements?

[ ] Yes. If yes, describe: _____
_____

[X] No

20. After considering all of the above criteria does this site potentially pose a hazard to groundwater?

[X] Yes If yes, describe: a fertilizer spill or a leak in the below ground fuel tank could pose a hazard to the well due to its close proximity
_____
_____

[ ] No

WB:rmi/3546n/18-23

HAZARDOUS REVIEW WORKSHEET

1. Unique I.D. Number 00315-04-XI. Distance and Direction from the Wellhead 250 feet southwest

2. Nature of Business Hanflad Painting Contractors

3. DLPC Permit Number(s) and Description (e.g., RCRA, Generic, Solid Waste, UIC, etc.): none

4. DAPC Permit Number(s) and Description: none

5. DWPC Permit Numbers and description (e.g., NPDES, Industrial Pre-Treatment, Sewer Plans, etc.): none

6. ERU Incidents and Description: none

7. ERU 313 Reports and Description: none

8. ESDA 302/303 Reports and Description: none

9. ESDA 311/312 Reports and Description: none

10. PWS compliance monitoring conducted and describe the results (e.e., VOC/VOA sample detects, etc.): none

11. ISFM list the underground storage tanks registered, provide the owner name and address:

Owner Name	Address

12. Is the site sewered or non-sewered? sewered

If the site is not sewered, describe: _____

13. Has on-site <u>past</u> or <u>present</u> landfilling, land treating, or surface impoundment of waste, other than landscape waste or construction and demolition debris occurred?
[ ] Yes, If yes, describe: _____

[X] No.

14. Are there currently any on-site piles of special or hazardous waste?
[ ] Yes If yes, describe: _____

[X] No.

15. Are on-site piles of <u>waste</u> (other than special or hazardous wastes) managed according to Agency guidelines?
[X] Yes.

[ ] No. If no, describe: _____

16. Are there <u>currently</u> any underground storage tanks present on-site, and will any underground tanks be installed in the future?
[ ] Yes. If yes, describe:

[X] No.

17(a). Has any situation(s) occurred at this site when resulted in a "release" of any hazardous substance or petroleum?

[ ] Yes (continued to next question
[X] No (stop here)

(b). Have any hazardous substances or petroleum, which were released, come into contact with the ground surface at this site? (Note--do not automatically exclude paved or otherwise covered areas that may still have allowed chemical substances to penetrate into the ground.)

[ ] Yes (continue to next question)
[ ] No (stop here)

(c). Have any of the following actions/events been associated with the release(s) referred to in question 17(b)?

[ ] Hiring of a cleanup contractor to remove obviously contaminated materials including subsoils

[ ] Replacement or major repair of damaged facilities

[ ] Assignment of in-house maintenance staff to remove obviously contaminated materials including subsoils

[ ] Designation, by IEPA or the ESDA, of a release as "significant" under the Illinois Chemical Safety Act

[ ] Reordering or other replenishment of inventory due to the amount of substance lost

[ ] Temporary or more long-term monitoring of groundwater at or near the site

[ ] Stop usage of an on-site or nearby water well because of offensive characteristics of the water

[ ] Coping with fumes from subsurface storm drains or inside basements

[ ] Signs of substances leaching out of the ground along the base of slopes or at other low points on or adjacent to the site

(d). The on-site release(s) <u>may</u> have been of sufficient magnitude to contaminate groundwaters. Summarize the problem.

_____

_____

_____

_____

_____

18. Are there more than 100 gallons of either pesticides or organic solvents, or 10,000 gallons of any hazardous substance, or 30,000 gallons of petroleum present at any time?

[ ] Yes, If yes, describe: _____

_____

[X] No.

19. Do any of the regulated entities have groundwater monitoring systems, and have any exceeded compliance requirements?

[ ] Yes. If yes, describe: _____

_____

[X] No.

20. After considering all of the above criteria does this site potentially pose a hzard to groundwater?

[X] Yes. If yes, describe: <u>amount and type of any solvants used unknown</u>

_____

_____

_____

[ ] No.

WB:rmi/3546n/18-23

APPENDIX F

Illinois
Environmental
Protection Agency

Office of Chemical Safety
2200 Churchill Road, P.O. Box 19276
Springfield, Illinois 62794-9276

IEPA/ENV/89-001

December, 1988

1,1,1-TRICHLOROETHANE
CHEMICAL INFORMATION SHEET*

WHAT IS 1,1,1-TRICHLOROETHANE?

1,1,1-Trichloroethane (1,1,1-TCA, Chlorothene , methylchloroform) is a colorless, non-flammable, chlorinated hydrocarbon. It is a liquid at standard temperature and pressure but in an open environment it quickly volatilizes to a vapor with a sweet chloroform-like odor. The principal industrial uses of 1,1,1-TCA include metal degreasing/cleaning, vapor degreasing, and as an additive to metal cutting oils. 1,1,1-TCA can also be found in household and office products such as liquid drain cleaners, spot removers, typewriter correction fluid, insecticides, liquid shoe polishes, and some aerosol sprays as a propellant.

1,1,1-TCA is a synthetic material with no natural sources. Since its commercial introduction in 1954, the annual U.S. production has grown steadily to an estimated 694 million pounds in 1987. The need for a solvent safer than carbon tetrachloride but with similar properties led to the popularity of 1,1,1-TCA.

HOW DOES 1,1,1-TCA GET INTO THE ENVIRONMENT?

It is estimated that 85-95% of the 1,1,1-TCA used in the U.S. is lost directly to the environment, almost entirely through evaporation to the atmosphere during its production, storage, or use. Three-quarters of these emissions are attributed to use during industrial metal-cleaning operations, which consume approximately two-thirds of the total production. Traces of 1,1,1-TCA can be found nearly everywhere on earth, from the home and workplace to the air, surface waters, and groundwater of industrial areas, to areas as remote as the South Pole.

When released to the air by evaporation, 1,1,1-TCA can be transported long distances with fractions returning to the earth in rain and snow. Most of the atmospheric 1,1,1-TCA remains close to the earth where it is broken down slowly by chemical reaction. About 15%, however, migrates to the stratosphere where breakdown by the sun is rapid.

When 1,1,1-TCA is released to bodies of water, the primary loss is by evaporation which is quickened by agitation and high wind velocity. When released to surface soil, it evaporates to the atmosphere or passes rapidly through the soil and into groundwater. Little or no breakdown of 1,1,1-TCA takes place in the soil. During its most common use, 1,1,1-TCA becomes heavily contaminated with grease and oil. In the past, this waste was disposed of in landfills, dumped on the ground, or dumped into sewers. These activities sometimes led to groundwater contamination where breakdown is slow. Drinking water wells can become affected and very high levels have been recorded in some isolated cases.

The major sources of human exposure to 1,1,1-TCA are from drinking water and to a lesser extent, air. The ambient air of various industrial users of 1,1,1-TCA was analyzed and found to contain the chemical at concentrations ranging from 1.5 to 350 ppm (parts per million). Air concentrations of residences in areas near industrial sources were much lower; averaging .0012 ppm.

Unlike most chlorinated compounds, 1,1,1-TCA does not accumulate in the bodies of animals or in plants. Although 1,1,1-TCA has been detected in some foods and animals, the diet is expected to be a minor source of exposure.

WHAT ARE THE HEALTH EFFECTS ASSOCIATED WITH 1,1,1-TCA EXPOSURE?

1,1,1-TCA is easily absorbed through the lungs and the digestive tract. When inhaled, 1,1,1-TCA is at first rapidly transferred to the blood. As the blood content increases, the rate of absorption slows. Once in the blood, 1,1,1-TCA is preferentially distributed to the central nervous system. The body can metabolize 1,1,1-TCA, but this process is very slow. The primary route of excretion is by exhalation, unchanged, through the lungs. This excretion process was investigated in human volunteers. It was determined that 90% of the absorbed 1,1,1-TCA was eliminated by exhalation within 8 days.

Short-term exposure: Extremely high concentrations of 1,1,1-TCA are required to produce effects from short-term exposures. Fatalities have occurred when individuals were exposed to very high vapor concentrations of about 5000 ppm (0.5%) or more in unventilated tanks or other confinements. By mouth, it is estimated that 1/2 to 1 pint would be fatal to an adult man. Death is usually due to respiratory arrest or shock. Breathing high concentrations (over 350 ppm) can cause eye, nose, and throat irritation and temporary narcotic-like effects sometimes followed by mild liver and kidney effects, also temporary. Extended contact with skin can result in temporary redness and irritation.

Long-term exposure: Studies of 21 women occupationally exposed for 6 1/2 years at levels of 110 to 345 ppm and 196 men occupationally exposed for at least 5 years at levels of 4 to 53 ppm 1,1,1-TCA showed no adverse effects. There is no evidence that 1,1,1-TCA causes cancer, reproductive problems, or birth defects in humans. Studies on rats and mice concluded that there was no harm to the fetus when mothers were exposed to 1,1,1-TCA vapors at levels up to 875 ppm. Vapor levels of around 2000 ppm caused some non-fatal delays in the fetal development of rats. Other studies on rats, mice, and dogs revealed minor effects on the liver. Inhalation and oral studies on rodents reported no evidence that 1,1,1-TCA causes cancer.

HOW IS 1,1,1-TCA REGULATED?

1,1,1-TCA is listed as a hazardous waste under the Resource Conservation and Recovery Act (RCRA) and, as such, its disposal is regulated. Threshold limit values (TLVs) adopted by the American Conference of Governmental Industrial Hygienists refer to airborne concentrations of substances and represent conditions under which it is believed that nearly all healthy workers may be repeatedly exposed without adverse effect. The TLV for 1,1,1-TCA is 350 ppm as an average 8-hour exposure for a 5-day workweek. Maximum Contaminant Levels (MCLs) are enforceable health-based standards for drinking water under the Safe Drinking Water Act. The MCL for 1,1,1-TCA is 0.2 mg/l (ppm). USEPA, under the Clean Water Act, has developed nonenforceable Ambient Water Quality Criteria for the protection of human health. For 1,1,1-TCA, the values are 18.4 mg/l (ppm) for waters used for drinking and fishing and 1030 mg/l (ppm) for waters used for fishing only. The Illinois General Use Water Quality Standards provide for protection of aquatic organisms by specifying that toxic substances not be present in surface waters at levels greater than 1/10th the lethal dose to common aquatic species. The safe level for fathead minnows, for instance, is 5.28 mg/l (ppm).

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*Note: This information sheet is a summary of readily available data regarding the general nature and effects of this chemical. The reader is encouraged to consult other sources or an appropriate professional if a more detailed explanation for specific concerns is desired.

APPENDIX G

Illinois
Environmental
Protection Agency

Office of Chemical Safety
2200 Churchill Road, P.O. Box 19276
Springfield, Illinois 62794-9276

IEPA/ENV/87-001-6 April, 1987

- GLOSSARY -
CHEMICAL INFORMATION SHEET

absorption - the movement of a chemical into the bloodstream or other body fluid or tissue after its entrance into the body through the skin, lungs, or gastrointestinal tract.

acute - sharp, severe; having a relatively rapid onset, often with severe symptoms and a relatively short course. In toxicology refers to a single large exposure to a chemical (acute exposure), or to the development of symptoms of poisoning soon after a single exposure to a substance (acute toxicity).

ACGIH - the American Conference of Governmental Industrial Hygienists. It recommends upper limits (see TLV) for exposure to workplace chemicals.

bioconcentration - the process in and by which chemical substances are accumulated in living organisms above their concentration in the environment. For example, a chemical is spilled into a river or lake and is ingested and stored by small organisms like plankton; small fish eat the plankton; and large fish eat the smaller fish. As this process occurs, the chemical becomes thousands of times more concentrated in the tissues of the large fish than in the plankton or the water. Usually occurs with fat-soluble compounds rather than water-soluble compounds.

biodegradation - the breaking down of an organic substance, resulting from the complex action of living organisms.

cancer - a group of diseases characterized by malignant, uncontrolled growth of cells of body tissue (tumors).

carcinogen - a term applied generally to any substance that is capable of producing cancer or increasing the growth and spreading of tumors in an organism.

chronic - occurring over a period of time. In toxicology refers to repeated exposure (chronic exposure) to a chemical for a relatively long period of time or persistence of symptoms or disease over a long period of time (chronic toxicity).

epidemiology - the study of the incidence, distribution, and control of disease in human populations.

leaching - downward movement of a material in solution through soil.

Maximum Contaminant Level (MCL) - the maximum permissible level of a contaminant that is allowed in a public water supply system.

metabolism - the changes that a chemical undergoes in an organism. The products of metabolism may be more or less active in the organism than the original (parent) compound. In animals, many of these products find their way to body excretions, for example through lung exhalation, urine, or feces. Tracing the pathways of metabolism is important to shed light on possible relationships between chemicals and particular health effects.

mg/m^3 - means milligrams of a chemical in a cubic meter of air. It is a density measurement expressing the amount of air pollutant in a given volume of air.

mutagen - a substance that causes a change in the genetic material in a body cell, called a mutation. Mutations may lead to birth defects, miscarriages, or cancer, or they may have no obvious effect, depending on what genetic material is damaged and on where the damage occurs.

persistent - existing for a long time in the environment or the body. For chemicals, this means not easily broken down; for the effects of chemicals, this means the effect remains or recurs long after exposure to the chemical.

pesticide - a general term used to describe a product designed to kill or control unwanted organisms; for example, herbicides are designed to control unwanted plants, insecticides are designed to control unwanted insects, fungicides are designed to control fungus and mold, etc.

ppb - an expression describing a small concentration, equal to an amount of one substance in a billion parts of another material; for example, one drop of alcohol in 16,000 gallons of water.

ppm - an expression describing a small concentration, equal to an amount of one substance in a million parts of another material; for example. one drop of alcohol in 16 gallons of water.

solvent - a liquid substance capable of dissolving or dispersing one or more other substances.

teratogen - a substance that causes stillbirths, birth defects, or malformations by affecting the growing fetus.

TLV - is the Threshold Limit Value for air. The TLV is a workplace exposure limit recommended by ACGIH and represents conditions under which it is believed that nearly all workers may be repeatedly exposed to a substance day after day without adverse effect.

toxicology - the study of the adverse effects of chemicals on living organisms.

volatile - readily vaporizable at a relatively low temperature.

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